Zenoir Online Classroom

User's Manual

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System Overview

Zenoir Online Classroom is an E-learning system which is mainly targeted towards teachers and students to implement online learning. The importance of these kinds of software is that it encourages the participation of students in the classroom this is implemented in the sessions module of the system which emulates classroom discussions in the real world.

The system is composed of two modules, the administrator module and the classroom module. The administrator module is mainly used for managing user accounts, courses, subjects and classrooms. The classroom module is mainly used by the teachers and students for their online interactions such as participating in online discussions, submitting assignments, downloading handouts, and sending messages to other users in the classroom.

Tech Stack

Here are the set of technologies and tools that I have used in the development of this system:

- CodeIgniter
- jQuery
- jQuery UI
- DataTables
- HTML KickStart
- jScrollPane
- Node.js
- Now.js
- Socket.io
- Git

Installation

Zenoir Online Classroom was developed in a Windows environment so I would prefer that you install it a computer with a Windows Operating System installed. But this can also be installed in a Linux Operating System.

The following are the requirements when you're installing Zenoir on Windows.

- Wampserver 2.1 - http://www.wampserver.com/en/
  - MySQL v5.5.8
  - PHP v5.3.5
  - Apache 2.2.17
- Node.js - http://nodejs.org/#download – select the Windows installer
- Heidi SQL - http://www.heidisql.com/
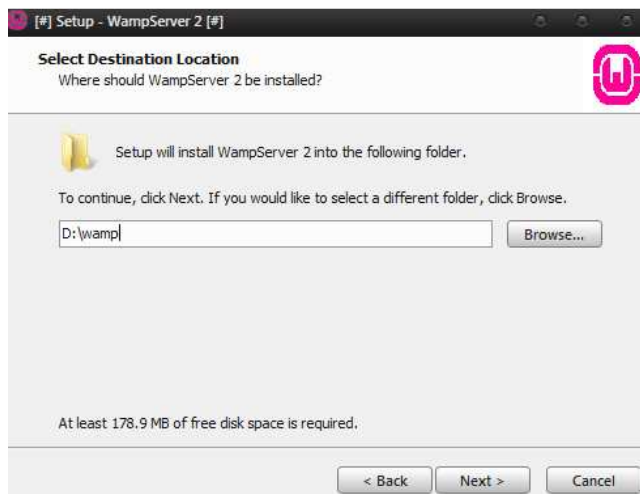
Installing Wampserver

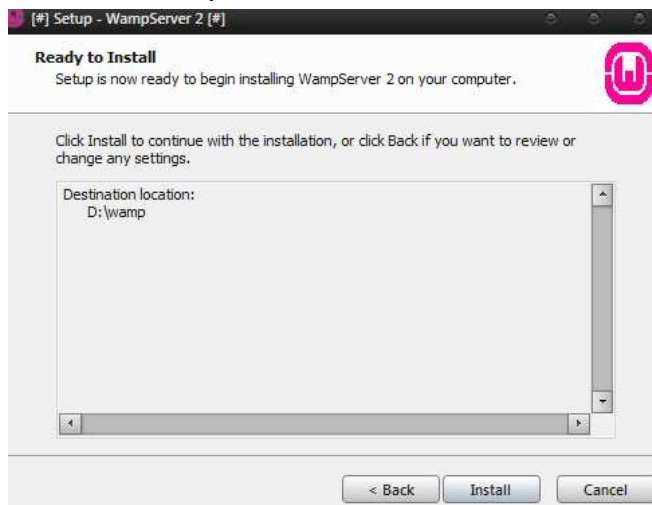1. Double click on the wampserver installer. Once you see the screen below click on next.

2. Select I accept the agreement then click next

3. Type the following on the location bar:

4. Click next until you see this screen. Then click on install to install the wampserver.

Installing HeidiSQL

HeidiSQL is a free database management application were going to use it to import the database used by the system into the MySQL database server.
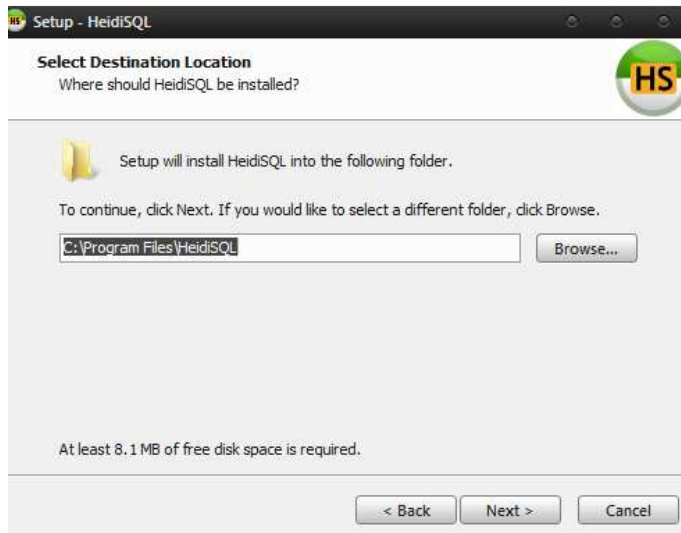
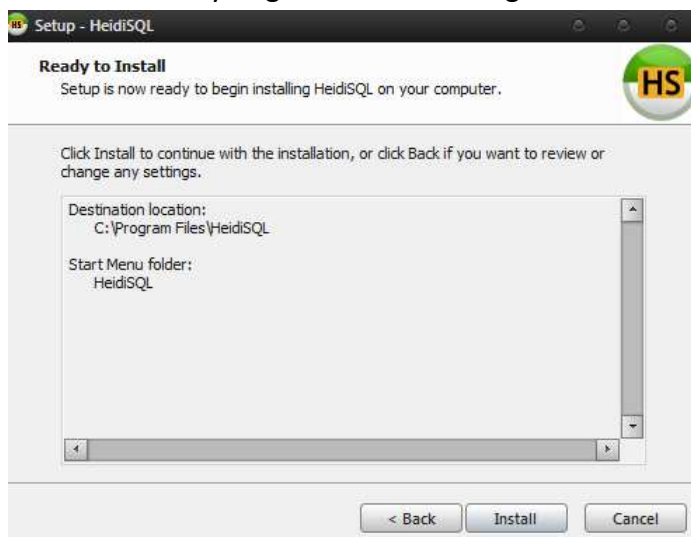1. Double-click on the HeidiSQL installer. Once you see the screen below click on next.

2. Accept the license agreement and click on next.

3. You can make use of the default folder for the installation of programs or browse for a different installation path.


4. Click Next until you get to the following screen and then click install.
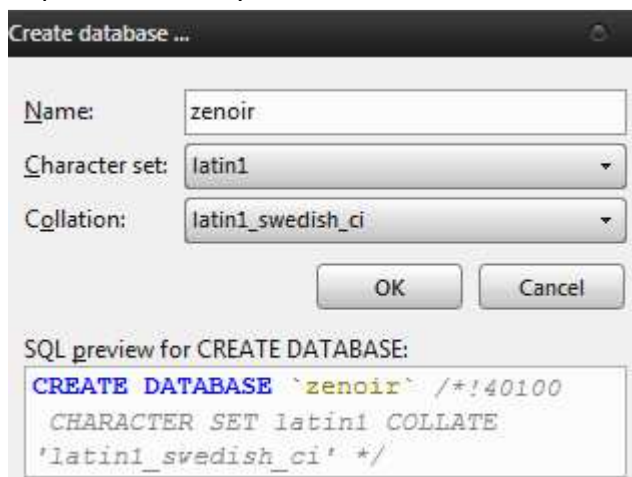
Importing the Database

The database is auto-filled with default data such as the administrator account and module information do not empty the contents of the tables because the default data is used by the system.

1. Open up HeidiSQL. The following screenshot shows the default values you can go ahead and click Open if you have the same screen as mine.
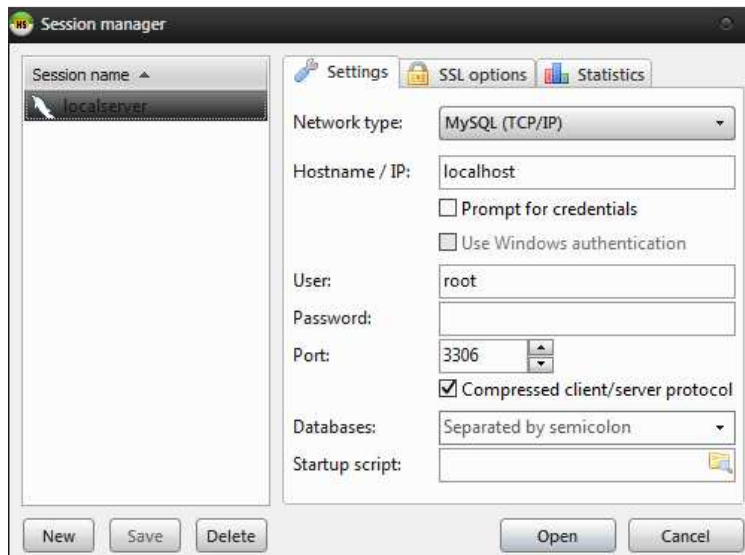

2. Right-click on the localserver, select create new then click on database. This opens up a new window for creating a new database just leave the default values as it is, what's important is that you name the database as zenoir.

3. You now have the database for the Zenoir Online Classroom, click on it to select it
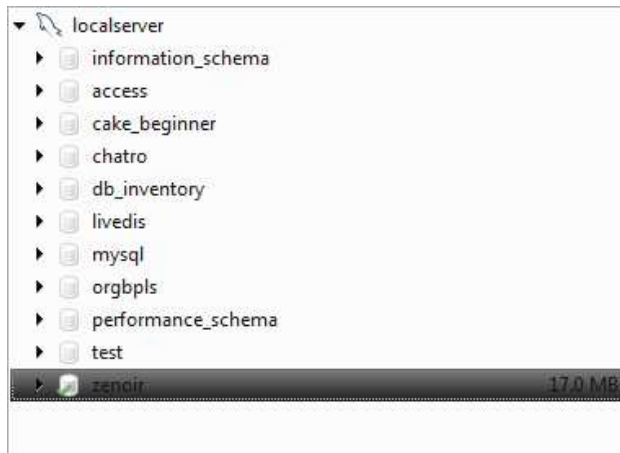
4. Next you have to import the tables and default data on the zenoir database. To do that just open up the **zenoir.sql** file which is stored in the **assets** folder and copy all of its contents then paste it to the query tab.
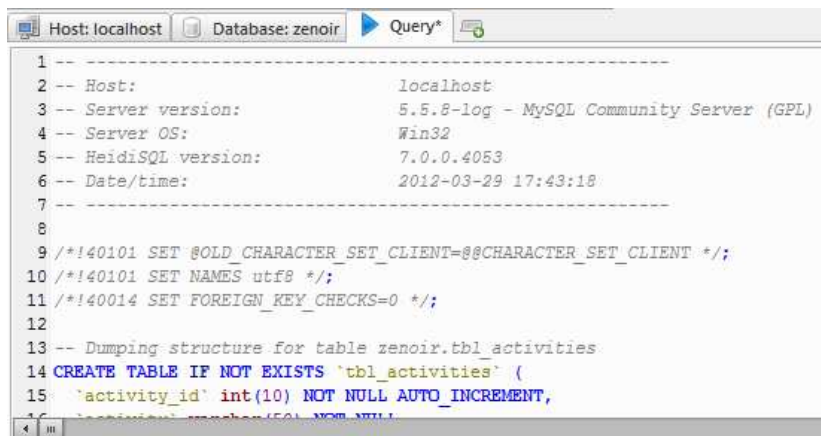
5. After that just press **F9** on your keyboard to execute the query.

Installing Zenoir

To install something you have to download it first, the Zenoir Online Classroom can be downloaded from its Github page:

https://github.com/anchetaWern/Zenoir-Online-Classroom

After downloading extract the files to the following location:

D:\Wamp\www

The directory will look like this on a Windows computer:
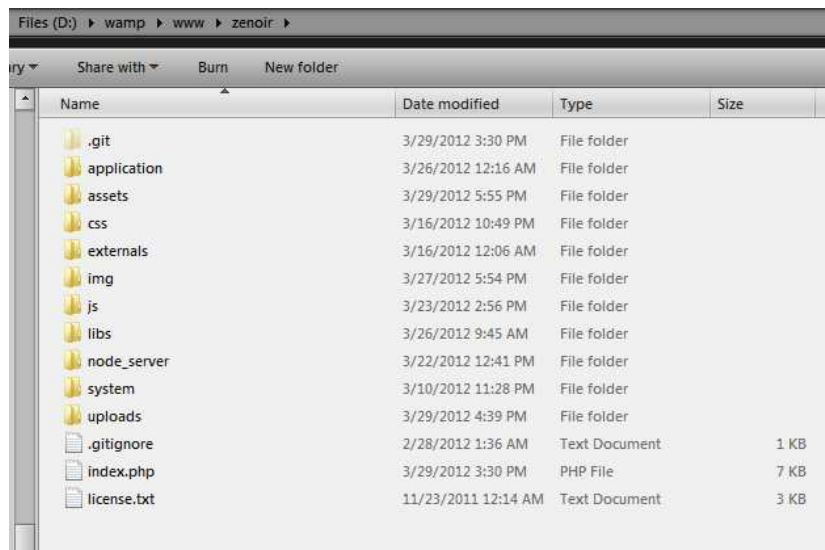
The system is now installed on the computer but you still have to configure a few things before we can be sure that it will work perfectly at all times. I'll be showing that to you on the next chapter.

Configuration

You have already installed the system but you still have to configure a few things in order to ensure security.

PHP.ini

This is the file where all the configuration for php is stored you need to change a few things on it to make sure that that the system is running on perfect environment.

D:\wamp\bin\php\php5.3.5

All of these are on Megabytes Unit just change it to whatever limit you want for the file upload size.

- post_max_size = 50M
- upload_max_filesize = 20M
- session.auto_start = 1

My.ini

The MySQL database also has a limit when it comes to the size of files that you store on it, I've set mine to 2048 Mb but you can have a lower or higher value it all depends on your preference.

D:\wamp\bin\mysql\mysql5.5.8

- max_allowed_packet = 2048M

Node Server

You also need to configure the node.js server so that the sessions module will work properly. The sessions module relies on node.js, socket.io and now.js to ensure real-time communication between the computers used by the students and the teachers whenever they are in a session.

Access the following location on the file system of the server:

> D:\wamp\www\zenoir\node_server

Open up the nowjs.js file and replace **localhost** with the external ip of the server (ip address which is accessible outside the network). You can determine the external ip by visiting cmyip.com or whatismyip.com. It will look like the example below once it's edited:

> 123.456.789:8081

I have set the port to be 8081 by default if you want to configure it you must open up the multiroom_server.js then change the port to whatever port you want to use, but be sure that the port that you are going to change it to is not already taken by other applications and services.

> server.listen(8081);

If you haven't already guess you also need to change the port from the nowjs.js file to be equal to the one that you used in the multiroom_server.js file:

> 123.456.789:8081

Database Password

I have set the default mysql password as 1234. I suggest that you change the password since it's insecure and easy to guess. To change the password you left-click on the Wampserver tray icon then select MySQL then click on MySQL console, this brings up the console that you can use to manipulate the database. By default there is no password so just press enter when you're prompted for the password. Then type the following commands in order:

```
use mysql

update user set password=PASSWORD(desired_password) WHERE user='root';

flush privileges

quit
```

You just need to replace the desired_password with the password that you want.

After that you need to modify the MySQL password in a few places in the system. First is the multiroom_server.js file:

```
var client = mysql.createClient({

  user: 'root',

  password: 'desired_password',

});
```

You also need to change a few things on the database.php file which can be found in the following location:

```
D:\wamp\www\zenoir\application\config
```

Just replace the desired_password with the password that you set earlier on the MySQL console

```
$db['default']['password'] = 'desired_password';
```

Running the System

Wampserver

To run the system all you have to do is to start Wampserver to do that just press the Window button on your keyboard and search for **start wampserver** then click on the result.

Node Server

You also need to run the node server which is primarily used for the sessions module. To do that just access the following location:

D:\wamp\www\zenoir\node_server

And then press shift on your keyboard while you right click on your mouse. This will show additional items on the context menu. Just choose the **open command window here** option. And then enter this command:

node multiroom_server.js

It will look like this:
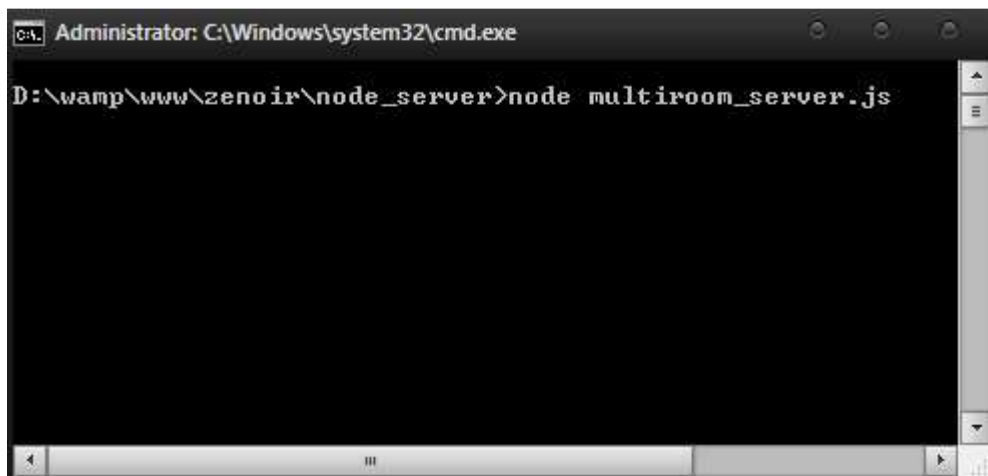
Remember not to close the command line because it's running the node.js server which ensures real-time communication between the computers in a session. Closing this would actually render the session module useless.

Administrator Module

In this section I'll walk you through the administrator module. The administrator module is mainly used for managing user accounts, courses, subjects and classrooms. New user accounts, subjects, courses and classes can only be created in this module. This is also where the system administrator can enable or disable existing classrooms.

Below is a screenshot of the administrator module. Buttons which links to users, subjects, classes and courses are all accessible from the administrator's home page.
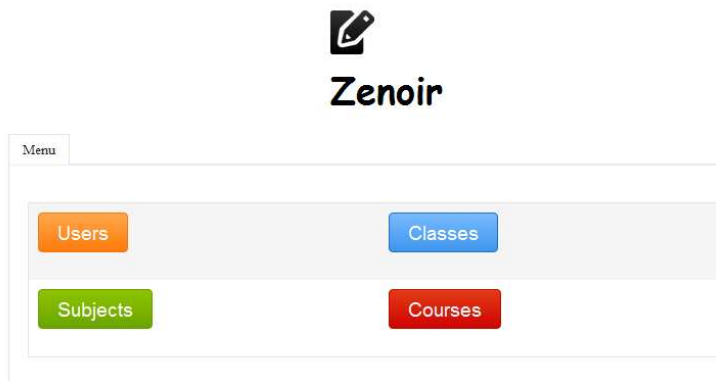
Users

Let's first head on to the users. This is where you will find a list of all the people in all the different classrooms.

Clicking on the view icon will let you view the activity log for the user that you have selected. Only the activities performed by the students and teachers are being logged by the system so viewing another administrator's log will show nothing.

New users can also be created. An administrator can create a student, teacher, or another administrator. The password for the user is not included since the user id and the password is the same by default the user has to change it on first login.

Create New User

User Type
Student

User ID

Firstname

Middlename

Lastname

Create User

Subjects

This is where you can create and manage subjects. Subjects are just like what they are in the real world; some examples would be Math, Science, Biology, etc. These are the actual subjects being taught by teachers. This will later on be associated with a class that will be created.

Zenoir

[Subjects]

Create New

Show 10 entries

Search:

Subject Code	Description	Edit	View
DBMS 1	Database Management Systems 1		
ACC 1	Basic Accounting		
COMPRO 2	Computer Programming 2		
IT ELEC 3	IT Elective 3 - ASP.Net		

New subjects can be created by clicking on the <u>Create New</u> link.

Create New Subject

Subject Code

Eg. COMPRO 1

Description

Eg. Computer Programming 1

Create Subject

Courses

This is where you can create and manage courses. This is a college student specific feature but it is required. If you're using this software for elementary or high school students you can have a course description like Elementary Students or High School Students.

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[Courses]

Create New

Show 10 entries

Search:

Course Code	Description	Edit	View
BSCPE	Computer Engineering		
BSCS	Computer Science		
BSIS	Information Systems		
BSIT	Information Technology		
BSN	Nursing		

Creating new courses is as easy as creating new subjects.

Create New Course

Course Code

Eg. BSCS

Description

Eg. Computer Science

Create Course

Classes

Classes are the actual classes that are being attended by each teacher and student in a real world setting. Teacher A can have a class on biology with the 1st year college BSIT Students, but can also have another class on biology with the 1st year college BSN Students those two are both classes in biology but they're with a different set of people so each of those are considered two different classes.

I guess the example was good enough so let's go back to the system. You can see here the list of existing classrooms. Information such as the class code description, subject and teacher is indicated. You can actually type any search term on the search box, for example if you only want to see classes in Accounting you just need to type Accounting and all the classes in accounting will be listed on the table. Clicking the view icon will allow you to enter the specific classroom but it's strictly for viewing purposes only, you as the administrator can only view things inside the classroom. Participating in classroom activities is possible but is not encouraged since the administrator's role does not cover it.

Zenoir

[Classes]

Create New

Show 10 entries

Search:

Class Code	Description	Subject	Teacher	View
BLAST/2N	Crow	Database Management Systems 1	HAL, Core Zal	🔍
LROOM2-3	Cool	Basic Accounting	HAL, Core Zal	🔍
SECONDO	BO	IT Elective 3 - ASP.Net	HAL, Core Zal	🔍
VEL/CRO	Dude	Basic Accounting	HAL, Core Zal	🔍
W/D	With Datalist	Database Management Systems 1	HAL, Core Zal	🔍
ZEEK/N-3	Awesome	Computer Programming 2	HAL, Core Zal	🔍

Creating a new class requires subject, teacher, and course information. You actually need to create entries for the subject, teacher and course before creating a new class. The class code is a unique representation of a class. There is a naming convention for class codes which composed of the subject code + slash separator + course code + year. If there are multiple sections in a course then you can also include the specific section to make the class code unique. The start and lock dates is the range of dates when the class will be accessible by both teachers and students. After the lock date the classroom will automatically be disabled, but the teacher can later on request the administrator to enable the classroom so that the students can still continually access it even if the formal class is already over.

Create New Class

Class Code

Class Description

Subject
Computer Programming 2

Teacher
HAL, Core Zal

Course/Yr/Section
Computer Science

Start Date

Lock Date

Additional Details
Eg. Semester, Class Notes

Create Class

Classroom Module

The classroom module is the main meat of the system. This is where the teacher and students can interact with each other in an online environment. Below is a screenshot taken from a student account. Information such as the class code, class description, teacher and additional classroom details can be seen on every page that is under this module.
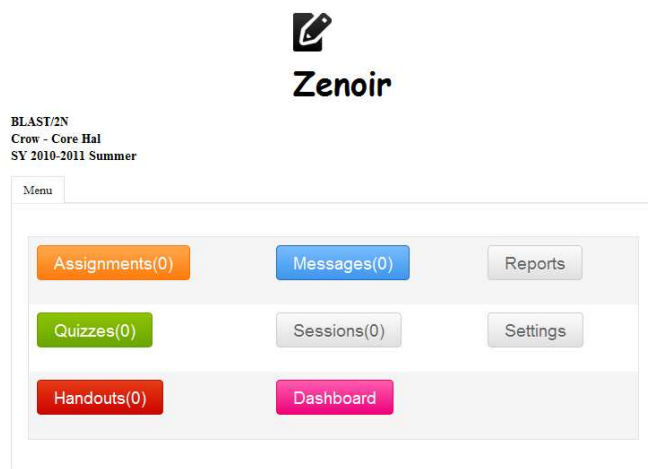
Dashboard

When you first log in the first thing that you will see is the dashboard or the landing page. This is where you will see a list of class that you can currently access, invites to a particular classroom, unread posts from all the classrooms that you are part of, and the previous classes that you have attended to. The dashboard is where you can find all the information relevant to your account.
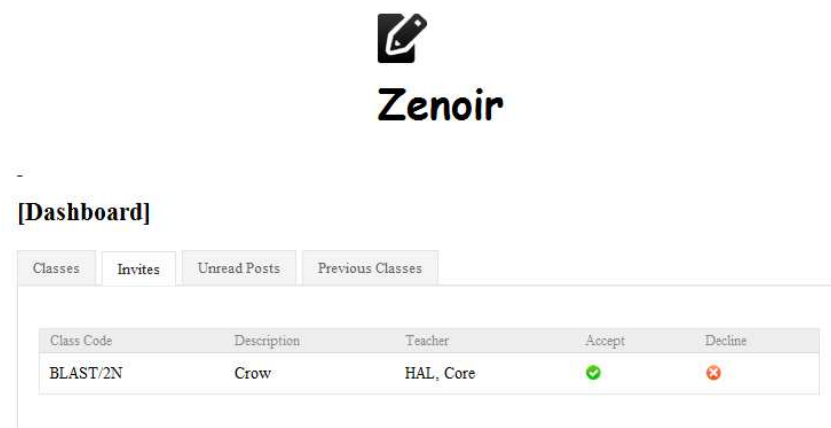
Assignments

This is where you as the teacher can create new assignments for the students to submit later. In creating new assignments the teacher can also attach files that is related to that particular assignment. The students can submit the assignment as long as the date in the server is less than or equal to the current date.

Create New Assignment

Title

A2

Body

Second Assignment

Deadline

2012-03-26

○ Select files

boom.PNG (29.15KB)
Pending...   ⊖

Create Assignment

You can also view the responses to a particular assignment by clicking on the view response button.

View Assignment - A1

Date: 2012-03-24
Deadline : 2012-03-24

Cool

- aaa7.PNG
- AAAA6.PNG

View Response

Clicking the View Response button will show a list of the names of the students and the corresponding date and time in which the reply was submitted. The red star indicates that the reply hasn't been read by the teacher yet.

Assignment Replies - A1

Title	Date	Sender	View
A1 Reply *	2012-03-25 00:58:59	ABURAME, Shino	🔍

Back to Assignment

Clicking the view icon will show the details of the response.

Assignment Response - A1 Reply

Sent by: Shino
Date: 2012-03-25 00:58:59

Here is my awesome reply

Back to Replies

Existing assignments are all listed.

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Crow - Core Hal
SY 2010-2011 Summer

[Assignments]

Create New

Show 10 ▾ entries

Search:

Title	Date Created	Deadline	View
A1	2012-03-24	2012-03-25	🔍

On the part of the students they can reply to an assignment by clicking on the view icon this will allow the students to view the assignment. They can just click on the reply button to reply on the assignment. Note that they can only do this if the assignment has not met its deadline yet.

View Assignment - First Assignment

Date: 2012-03-29
Deadline : 2012-04-02

```
        This is your first assignment for Computer
Programming 1 -Java. Define the following:
1.OOP
2.Java
3.System.out.println
4.Refactoring
5.JCreator
6.Netbeans
7.Classes
8.Objects
```

Reply

Clicking on the **reply** button will display a form in which the students can place their reply. The body is automatically filled with the assignment body so that the students won't need to open up another window or application in which they can view the contents of the assignment. They can just delete it later on once they have written the reply. Files can also be attached to a reply. Note that the students can only submit one reply for an assignment. Replies cannot be updated by the students so it's important that they are sure of their answers before submitting.

Reply to Assignment - First Assignment

Title

Body

```
This is your first assignment for Computer Programming 1 -Java. Define the
following:
1.OOP
2.Java
3.System.out.println
4.Refactoring
5.JCreator
6.Netbeans
7.Classes
8.Objects
```

○ Select files

Submit Reply

Messages

This is where the students and teachers can interact inside the classroom in a private manner. This is very useful in cases wherein the student has problems which he cannot open to the whole class. The messages can also be used on things that aren't classroom related that is why the activities here aren't logged in the database.

Creating a new message involves selecting the people who will receive the message, the title and body and also the files if there is any. Only people who also belongs to the classroom that you are currently logged in are listed in the select box.

Create New Message

Send To

ABURAME, Shino
YUGO, Karin
SHIN, Yui
LANDO, Mario

Title

Body

○ Select files

Send Message

The list of messages are divided into two categories, the inbox where the messages sent to you are listed and the outbox where the messages that you have sent out to other people are listed. You can view any message by clicking on the view icon.

Reports

The reports is where you can view student-related information such as the autobiography and user activity log.

Clicking on the view icon opens up a new model window that allows you to view the students autobiography.

View User Information - ABURAME, Shino Natsu

Cool

View Logs

Clicking the View Logs button shows a list of all the activities performed by the student in the classroom along with the date and time when it was performed. This is very useful if the teacher wants to track what the student is actually doing inside the classroom.

view assignment	2012-03-24	3:47:26 PM
view assignment	2012-03-24	3:47:27 PM
view assignment	2012-03-24	3:47:33 PM
view assignment	2012-03-25	12:57:08 AM
view assignment	2012-03-25	12:57:10 AM
view assignment	2012-03-25	12:57:35 AM
view assignment	2012-03-25	12:57:35 AM
responded to assignment	2012-03-25	12:58:59 AM

Quizzes

This is where you can create new quizzes. Quizzes are only multiple choice type at this time but I'm planning to add other types of quizzes in the future versions of this system.

Quizzes has a start and end time, this is the range of time upon which the student can take the quiz. Accessing the quiz before or after the allotted time isn't allowed by the system. Quizzes should also be taken by the students after opening because it can only be opened once.

Create New Quiz

Quiz Title

Quiz 2

Body

Zombies

Start Time

2012-03-26 12:00 am

End Time

2012-03-26 02:00 am

Next

After entering the general details of the quiz, the quiz items is then set. First you have to enter the number of items in the quiz and then input the question, the four choices and lastly the answer to the question.

Create New Quiz

Number of Items

| 1 | ⬆⬇ |

| Who created PHP? |

| Me |

| You |

| Us |

| Rasmus Lerdorf |

| D ▾ |

Create Quiz

Clicking on the Create Quiz button will create the quiz. It will immediately be listed in the table of existing quizzes.

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Crow - Core Hal
SY 2010-2011 Summer

[Quizzes]

Create New

Show 10 ▾ entries

Search:

Title	Date	Start Time	End Time	View
First Quiz *	2012-03-24	3:00:00 PM	5:00:00 PM	🔍
Quiz 2	2012-03-26	12:00:00 AM	2:00:00 AM	🔍

Clicking on the view icon shows all the details pertaining to the quiz. And that includes the quiz items.

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View Quiz - First Quiz

Date Created: 2012-03-24
Quiz Date: 2012-03-24
Start Time: 3:00:00 PM
End Time: 5:00:00 PM

Interesting

Question	A	B	C	D	Answer
What's the color of Philosopher's stone	Red	Blue	Green	Scarlet	D
Who created PHP?	Rasmus Lerdorf	Mark Zuckerberg	Bill Gates	Son Goku	A
Who created Python?	Bruce Lee	Jackie Chan	Yoh Asakura	Guido Van Rossum	D

View Scores

Clicking the View Scores will allow you to view the scores made by each student.

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View Quiz Results - First Quiz

Quiz Date: 2012-03-24

Student	Score
SHIN, Yui	3
ABURAME, Shino	2

On the part of the students taking the quiz created by the teacher only requires two steps. First the student needs to click on the quiz that he needs to take.

And then answer the questions in the quiz:

Take Quiz - OOP

1) What is OOP

[-- ▼]

A. Object Oriented Programming

B. Over Over Programming

C. Over Oriented Programming

D. Over and Out Programming

2) A basic concept in OOP

[-- ▼]

A. Classes

B. Masses

C. People

D. Neutrons

3) What is Java?

[-- ▼]

A. Rice

B. Ancient People

C. Object oriented programming language

D. I don't know

Submit Answers

After clicking on the Submit Answers button the students will also be prompted if they are sure of their answers, they can just click on the cancel button and review their answers if they're not sure otherwise they click on Ok to submit their answers.

Are you sure of your answers?   Ok   Cancel

Once the answer has been submitted the page will be redirected to the list of quizzes. They can see the link to the quiz that they have taken but they can no longer enter it. The answers and scores to a quiz can also not be viewed by the students.

Handouts

The handouts is where you can post useful resources, links, documents related to the class.

Zenoir

BLAST/2N
Crow - Core Hal
SY 2010-2011 Summer

[Handouts]

Create New

Show 10 ▾ entries

Search:

Title	Date Created	View
H1	2012-03-24	🔍
H2	2012-03-24	🔍

Creating a new handout is simple, you just have to input the title, body and upload some files.

Create New Handout

Title

Body

⊕ Select files

Create Handout

Groups

Groups is a feature of this system that will allow the students and the teachers to create a group composed of any number of people as long as they belong to the same class. Groups can be accessed on the top left portion by clicking on the **groups** link.

Creating a new group involves giving a name to the group and selecting the members. The only people listed in the select box are the people who belong to the classroom where the user is currently logged in. After selecting the members just click on the **create group** button to create the group. Remember that only the person who created the group can make changes to it later. Like removing people and adding people to the group.

Create New Group

Group Name

New Group

Select Members

HAL, Core
ABURAME, Shino
LAN, Freo
TSU, Gai

Create Group

To update a group just select it from the list of groups where you currently belong and click on the update icon.

Groups

Create New

Group Name	Creator	Update
New Group	LEE, Rock	

Clicking that will show an interface similar to the one below. It allows you to update the name of the group, remove existing members and add new members. To remove a specific member just click on the delete icon. To add a member just select the users that you want to add while pressing **ctrl** on the keyboard to select multiple users. Then click on the **update group** button once you're done making the changes.

Update Group

Group Name

New Group

Member ID	Fullname	Remove
72	HAL, Core Zal	✖
174	ABURAME, Shino Natsu	✖
Freo	LAN, Freo Nerio	✖
Gai	TSU, Gai Gami	✖

Select Members

CHRYSALIS, Haku
CRANE, Nucleus
ICHI, Yon
JEBROS, Neron

Update Group

The groups only purpose is for grouping people for team sessions. It's actually necessary to create a group first before thinking of creating a team session.

Sessions

This is the main meat of the classroom module. This is where the teachers and students can interact with each other in real-time. This is merely an emulation of the discussions made in a classroom in the real-world but it encourages participation from each of the students. This will mainly benefit the shy-type students who aren't participating in classroom discussions mainly because they're afraid of raising their hands and are too nervous to answer questions personally.

Zenoir

BLAST/2N
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[Sessions]

Masked Session   Class Session   Team Session

Show 10 ▾ entries

Search:

Title	Description	Type	Date	Always Open	From	To	Join
Another Valid Team Testing	Yeah	Team	1970-01-01	YES	12:00:00 AM	12:00:00 AM	➡
can join	yes	Team	2012-03-24	NO	12:00:00 AM	11:00:00 PM	➡
Cannot join	ytes	Team	2012-03-23	NO	12:00:00 AM	2:00:00 AM	➡
Masked	Awesome	Class	2012-03-24	NO	12:00:00 AM	7:00:00 PM	➡
Masked Session by Core Hal	Yippee	Class	2012-03-23	YES	12:00:00 AM	12:00:00 AM	➡
team session by core hal	yum	Team	1970-01-01	YES	12:00:00 AM	12:00:00 AM	➡

There are 3 types of sessions:

- Class Session – can only be created by teacher and all members of the class are automatically members of a class session.
- Masked Session – the same with the class session the only difference is that the members have the option to use an alias upon joining the session. This is very useful in cases wherein the topic for the session requires opinions and ideas which aren't very pleasant when the opinion or idea is associated to a real person's name.
- Team Session – members of this session can be selected by the creator of the session.

Creating a new session requires the title, description, accessibility status, and the range of time upon which the session is accessible. If the always accessible checkbox is checked the session will always be accessible, members of the session can post anything anytime because the session never expires members can continuously pour some ideas and opinions. If the always accessible checkbox is not checked then you have to input the time from which the session is accessible and also the time in which it will expire. Expired sessions can still be seen on the list but cannot be entered by anyone anymore.

Create New Masked Session

Title

Description

Always Accessible
☐

Time From

Time To

Create Session

When you are late in entering a session you will not be able to see previous messages that were sent before you joined in the main chat box but you can view it by clicking on the session title which opens up a new modal window which lists all the conversations before you joined the session.

When you enter a session here is what it looks like. The session details are on the upper part just below the classroom details.

Clicking on the session title will list all the previous conversations before you joined the session.

Settings

This is where you can control the settings in the classroom. You can invite existing students from other classrooms, remove existing students from your class, enable or disable specific modules, and export classroom data to other classes that you also handle.

First on the list is inviting students from other classes. This lists all of the students that are not currently part of the classroom where you are currently logged in.

Clicking on the add icon will prompt you if you want to invite the student into the class.

Clicking OK does not automatically add the student into the classroom the student has to confirm the invitation first before he can be a member of the class.

Next is the removing of students in the classroom. This is where you can remove students who are currently a member of the class where you are currently logged in. This doesn't require the confirmation of the student. After the teacher has confirmed the action of removing the student from the classroom the student is automatically removed from the classroom. The removed student can still log in to his other classes but not in the classroom where he is removed.

Zenoir

BLAST/2N
Crow - Core Hal
SY 2010-2011 Summer

[Classroom Settings]

| Invite Students | Remove Students | Enable/Disable Modules | Export |

Show 10 entries

Search:

ID	Student	Remove
174	ABURAME, Shino Natsu	⊗
Karin	YUGO, Karin Neo	⊗
mario	LANDO, Mario Super	⊗
YUI	SHIN, Yui Nagato	⊗

Next is the enabling and disabling specific modules in the classroom. All you need to do here is to check the modules that you want to enable and uncheck the modules that you want to disable. All the modules are enabled by default. Once disabled the students and you as the teacher will not be able to access the module. This is useful in cases wherein you have to limit what the students can do inside the classroom.

Lastly there is the classroom export feature. This is where you can take the data from the classroom where you are currently logged in and transfer it into the other classes that you handle. All you have to do here is to check what you want to export (students, handouts or both) and then select the classroom where you want to export it and then click on the export button.

Contact Information

If you have any questions, comments or suggestions regarding this system you can try and reach me on the following places:

- Project Github page - https://github.com/anchetaWern/Zenoir-Online-Classroom
- Twitter Account - https://twitter.com/#!/Wern_Ancheta
- Gmail Account – ancheta.wern@gmail.com
- Facebook Account - https://www.facebook.com/vern.ancheta
- Google Plus Account - http://bit.ly/HmNUHe